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ON RETROFLEXION OF THE UTERUS.

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When I consider that by far the greater number of patients who attend for advice on uterine complaints suffer from retroflexion and its various effects on the system, I need offer no apology for bringing this very important subject under your notice for discussion.

In anteflexion the emptying and filling of the bladder oppose flexion, but in retroflexion there is no such preventive, and the fundus, once turned backwards, gets pressed down by the bowels until it can be easily detected as a round body behind the cervix.

The ligaments are stretched and the vaginal walls relaxed, whilst the vagina itself is more or less perpendicular and parallel with the symphysis. The point of flexion is not usually acute, but forms more of a right angle, the fundus being proportionally deeper than in anteflexion. In some cases the cervix is found to rise upwards, undergoing a sort of compensatory movement, but this is only possible with relaxed vaginal walls. If this movement is prevented by fixidity in the vagina, a more acute flexion naturally results.

Whilst retroflexion is found to exist in some persons without any symptoms arising therefrom, as seen especially in aged women, usually the occurrence of flexion involves a series of dangers, and may even act upon the uterus in such a way as to produce various pathological changes.

Hyperæmia is at times so well marked that, with the finger in the posterior and upper region of the vagina, one can press as in œdema, and trace changes due to disturbance of the circulation or to chronic metritis. If congestion of the fundus exists, the point of flexion becomes more atrophied. So much is this the case that the lower wall at the point of flexion may

be found very thin, and the finger detects a very marked degree of retroflexion.

The upper surface is stretched, but is never so atrophied as the point of flexion on the lower wall. The pressure of the fundus often sets up peritonitis, which is at times the chief symptom, and thus arises the question whether the peritonitis or flexion first existed. Usually a healthy uterus lies in the normal axis; but it may deviate, especially when its ligaments are much relaxed. If so, how much more will a diseased heavy uterus tend to do so? Some assert that the state of retroflexion is the result of a pre-existing version. Whilst admitting that many cases may so originate, yet there are cases where the retroflexion exists as a primary condition, and not only so, but cases are found of anteflexion alternating with retroflexion.

The relations of the neighbouring organs to the displaced uterus must be considered. The rectum will affect its position according as it is empty or loaded. If a full rectum projects from above downwards, it will necessarily displace the uterus somewhat to one side, especially if the case partakes more of a version. If there is marked retroflexion, so much the more will a loaded rectum increase the flexion. Each succeeding defecation will press the fundus downwards and forwards, and cause great suffering. Adhesive peritonitis is set up, and the uterus may become fixed in its false position. Should the patient guard against constipation she may escape such symptoms, but the retroflexion will still exist. Patients complain of pain as if a body was going to pass, a sensation similar to the pressure of the child's head in labour is experienced in extreme cases, and this results from the pressure of the fundus downwards. At times the bladder is also affected, through the marked tilting forwards and upwards of the cervix. The fundus may also compress one or push both ureters aside. Hildebrandt had a case where a ureter had dilated above the point of compression. Any pressure applied to this swelling caused a discharge of urine towards the bladder. The urethra may be dragged upon and so cause difficulty in voiding the urine as well as altering the direction of the stream. The anterior vaginal wall is not usually stretched, although I have met with a few cases where the finger could be passed along the anterior wall into the cervical cavity without meeting with any opposition where the anterior lip should have been. In many cases the cervix appears small, but on replacement of the organ it is felt to be well marked in size. On the other hand, marked cases of elonga-

tion of the anterior and posterior lip are found, with a wide cleft between.

The os is frequently gaping and colic is experienced in some such cases from the injection of fluid directly into the cavity of the uterus, owing to the nozzle of the tube having been placed within the patulous os. Again, any cicatrix on the anterior wall may produce retroflexion. Such cases are not uncommon. I saw a very marked case of this in Professor Leishman's ward, where a patient was admitted for retroflexion. On examination a bridle was found extending from the anterior vaginal wall to the cervix. This was divided, with the result that the uterus sprung forward into its normal position.

The broad ligaments are found to deviate with flexion, and this necessarily has an influence upon the uterine vessels, not so much upon the arteries, these being too rigid to be endangered by any slight turning and stretching, as upon the relaxed veins.

The ovarian ligaments may become stretched, and allow the ovaries to follow the uterus somewhat, although it is not always found that the ligaments are relaxed. In some cases the ovaries are felt upon either side, somewhat higher, of normal size or enlarged, sensible to pressure or painless. This position results from the fact that the ovary has contracted adhesions above, which prevent it from falling with the fundus.

Again, you may have the ovary drawn nearer to the uterus from some inflammatory action on the walls of the uterus itself. If the ovary should lie between the uterus and the rectum, constipation might by pressure set up perioophoritis, and thus we may have symptoms referable to the position of the ovary. In one case recently under observation the whole complaint was due to pain arising from this cause.

Some stress has been placed upon the pressure of the fundus upon the large nerves as they lie in the posterior wall of the pelvic cavity, but this cannot take place as they leave the pelvis through the large sciatic foramen. Pain may result, however, from exudation the result of pressure, and also, the fundus may press upon the sympathetic nerve texture on the anterior and lower surface of the sacrum, and so give rise by reflex action to an abnormal sense of pain.

In nulliparæ the retroflexion is usually due to the relaxed state of the muscular tissue of the uterus. Several blame masturbation as the disturbing cause, whilst others blame the impotence of the husband. However, the data in such cases

are not such as would justify a definite conclusion. It will be admitted that hyperæmia with excited desire may certainly bring about relaxation of the uterine tissue. In such cases where masturbation has been practised the vagina and external genitals have been found relaxed and very moist. In some of these cases the uterus is found to alter its position, at one time being anteflexed, then retroflexed, and so on. In fact, there is no difficulty with such cases in changing the position of the organ with the fingers.

It will, therefore, be easily understood how such cases are easily affected by any mechanical influence, such as posture, constipation, or habitual distension of the bladder.

In the same way, menstrual congestion and distension of the bladder will correct an anteflexion, and will also prevent the organ from becoming fixed, but in retroflexion no such natural influence exists to push the body upwards. If the fundus is small there is less chance of an acute bend being formed, and whilst in multiparæ the lower wall is atrophied at the point of flexion, in these cases there is rather a stretching and thinning of the upper wall. Even in the uterus itself, there may be, in the existence of a thin and weak wall, an influence for producing a flexion. The longer a retroflexion exists, the less chance is there of its righting itself, more especially if constipation sets in, as then the fæcal mass presses from above upon the fundus. The more resisting the abdominal walls and the more they oppose any distension of the bowels from fæcal matter or gas, the greater will the impression on the fundus be, and the less chance of its coming forward again.

The longer the uterus lies retroflexed, the more it takes the new form, whilst the under wall especially becomes thickened, congested, and œdematous. The loaded rectum pushes the bended uterus forward, and so increasing the dysmenorrhœa, gives rise to disturbance in the circulation, and then follow peritonitis, adhesions, displacement, fixation of the ovaries, with constant retroflexion. Many cases, however, are met with in which no adhesions are found, and frequently the displacement results from a small interstitial myoma.

Menstruation in women who have borne children or who have aborted is very marked, especially in multiparæ. Here the uterus is in a state of subinvolution; the vessels remain distended, and allow much blood to escape. With this bleeding and the relaxed state of the uterine walls, the uterus loses its power of contraction. The sound passes easily, and the blood flows without the slightest difficulty or pain being experienced.

Often at the outset pain is felt in the supra-pubic and sacral regions. The flow continues from six to nine days, whilst the next period is often manifested by the sudden return of the bleeding. If the woman is anæmic, a period may pass without any flow, but the next time it returns with increased force. The periods become irregular. Patients who cannot rest complain bitterly of the flooding. In the night, or by taking a horizontal position, the bleeding appears to cease; clots forming in the vagina act as a plug; but as soon as they rise the clots escape, and the bleeding begins afresh. If compelled to walk about during the day, the patient complains of the unceasing discharge of blood, which is at times brownish and fœtid. I have been consulted by many poor women who complained of the blood running down their legs, and even leaving blood spots where they walked. As a consequence there soon results marked anæmia, the skin becomes waxy, and the patients feel as if they had no power left. Yet in this condition they are often compelled to go about doing work to secure a living for themselves and family.

The mucous membrane remains swollen and the cavity dilated. If the fundus lies deep, the secretion is allowed to accumulate in the cavity, and causes in some cases distension of the uterus. This secretion, if mixed with blood, soon becomes fœtid, and may produce septic poisoning.

Case of Mrs. B., æt. 42.—Began to menstruate when 13, and continued regular till marriage, nine years ago; since then she has been irregular and subject to a feeling of pain through the pelvis, with increasing weakness. Menstrual discharge irregular, profuse, and lasts eight days. She has never been pregnant. On examination the uterus was found strongly retroflexed. Sound passed 3½ inches, and on withdrawal was followed by a copious mucous discharge which had been accumulating in the distended fundus. Menstruated soon after. Discharge had a most offensive smell, and continued for a week. Used carbolic injections to kill the odour.

A Hodge pessary was introduced. Next period lasted only four days, when the discharge came away free of pain and without odour. At present patient feels well, and is improving in her health. On examination, the uterus and pessary remain in good condition.

Now, in such cases the passage of the sound is followed by a copious discharge of retained mucus. In some cases the uterus is so inert that the faulty introduction of an injection pipe or a strong stream of water may induce distension.

There are other important points connected with displace-

ment. Can erosion and cervical catarrh be cured without replacement of the fundus, and, if not, why do so many cases of retroflexion exist without even a trace of erosion, and very little hypertrophy of the cervix? In many cases of newly formed flexion the tissue of the uterus is already œdematous, and this results from congestion. The uterus is heavy and thickened, and yet in a few days after replacement it is found to have regained its normal condition. In such a case a badly placed pessary will set up pains and excite perimetritis. With the proper replacement, however, all feeling of discomfort disappears and the bleeding ceases, the patient menstruates without pain, the uterus contracts and remains in good position.

In time the case is cured, and the pessary can be removed. I have met with cases of women who had reached their 46th or 48th year, and who suffered so much from menorrhagia as to give rise to a suspicion of cancer. Yet these same cases, on having the displaced organ put in good position, have been immediately relieved, the bleeding disappeared, and the patients very soon regained their health.

One is accustomed with patients who are always complaining of indescribable pains. They feel "as if their inside was going to fall out;" they have "a constant desire to pass something from the bowels," and say "if it was gone they would be quite well." On coming down stairs, dancing, lifting any weight, standing a long time, or even driving over a rough road, the feeling is increased almost to pain. Very little exertion tires them out. These symptoms result from the pressure backwards of the fundus, from peritonitis, and from pressure on the fundus during defecation. The pains resulting from the rectum are often increased when the body of the uterus is large, and heavy or fixed. On making a vaginal examination one frequently feels, immediately above the region of the anus, a large mass of fæcal matter, and above this the fundus, which is often fixed, and if pressed forwards gives rise to pain.

Patients with such displacements are inclined to rest, and sitting induces constipation. Defecation is painful, and therefore the patient avoids going to stool. As a result we have the rectum loaded with a dry, hard mass, which is only passed with the most excruciating pain, in a manner justifying the answer of an old maiden aunt to a niece near her confinement, when asked if the pains of labour would be hard to bear: "They canna be waur than extreme costiveness." Pain during the sudden occurrence of retroflexion is very marked, as the pelvic peritoneum has not yet adapted itself

to the pressure, as is often the case later on. Sometimes perimetritis occasions great pain during defecation, especially if there be exudation.

The bladder seldom gives rise to any symptom, and this is especially so with old cases. It is free from pressure, and nothing hinders its distension. In fresh cases, however, the bladder is affected by this displacement. In some chronic cases I have observed shortening of the anterior walls of the vagina, which is very marked by the stretching found on replacement of the organ. In retroflexion, with pregnancy, the most marked symptom is retention of urine.

Another organ which is much affected is the ovary. It may get pressed between the distended bowel and the fundus, but it is questionable if the normal ovary is very painful to the touch. If pain is felt I suspect it is peritoneal in character. When the displaced uterus is congested, the ovaries will likewise be affected. With replacement and relief of the uterus you will have diminution in the size of the ovaries as well.

Some patients complain of pains in various parts of the head, at times of hiccup and vomiting, and of fear, which they say arises from sensations over the heart. These have been cured by simple replacement of the organ. If there is any tendency to phthisis, the recognition of the displacement will be more important in order to prevent greater weakness.

Diagnosis.—It is scarcely needful for the recognition of retroflexion to make a bi-manual examination, as a digital examination should be sufficient to detect this displacement.

However, it is better to do so, when, if there should exist any other abnormality, it may be detected, as it may be of the highest importance in the treatment.

If one hand is placed in the hypogastric region, and two fingers of the other hand within the vagina, the cervix will be found directed forwards, or may even be detected close to the symphysis. Behind the cervix is felt the fundus, and the flexion immediately between the body and neck. If the fingers be pressed up in front of the cervix, they can be felt with the other hand, indicating that the uterus is absent, and that the swelling behind the cervix is the uterus and not an exudation. If the fingers are directed towards the fundus behind and pressure applied, it will give evidence of the presence or absence of pain, of the mobility of the uterus, and of the existence of adhesions. You detect if the uterus is heavy, or if any inflammatory state exists which would exclude further examination.

When the case is a simple one, we make out the position, form, and size of the organ. Passing two fingers, and rotating them so as to have the knuckles behind, they are pushed up behind the cervix, in order to press the fundus upwards. Still pressing with the middle finger, the forefinger is hooked round the cervix, and pulls it backwards. The more it brings the cervix backwards, the higher is the middle finger pushed. At the same time the free hand is pushed from the region of the navel towards the promontory of the sacrum, and so getting behind the fundus presses it forwards. In some cases where the abdominal walls are not relaxed, very little aid can be given with the hand outside. If such movements can be effected, it indicates that, so far as practical purposes are concerned, there is no adhesion behind.

The case may, however, be complicated with acute or chronic peritonitis. If pain is experienced on examination, very careful pressure here and there with one finger will enable you to locate the seat of pain. Is the pain from a dislocated ovary? Then find out its size, and the amount of pain on pressure. At times a distinct swelling is felt at the side of the uterus, which is recognised from its history and character as due to a previous perimetritis.

When adhesions exist, the replacement of the organ is difficult and painful, as the stretched bands again pull it back into its faulty position.

Sometimes the uterus is found to be hypertrophied at various points. It is not necessary to pass the sound in most cases, unless to replace the organ or assist in diagnosing adhesions and the relations of the uterus to existing tumours. Usually little pain is experienced through the introduction and replacement with the sound. In introducing the sound in these cases, much aid is received from proper manipulation with the two fingers within the vagina. They not only act as a guide to the sound, but may, by pressure upwards behind, in a manner straighten the organ, and so permit the sound to pass the point of flexion easily.

If there be much difficulty, great assistance is got from the use of Sim's or Reid's speculum along with the vulsellum.

In a few cases the uterus is high up, the cervix normal, and yet with very careful examination the retroflexed fundus is detected. We have now seen that retroflexion may result from various causes, from arrested development, from unequal contractions in the uterine fibres after a confinement or an abortion, from an inflammation followed by a shrinking of the uterine or adjacent tissues, from a local peritonitis with

shortening or adhesion of the peritoneal folds, from pressure exercised upon the uterus by a tumour, ovarian cyst, &c., from an inerease in its long diameter, espeeially coinciding with thiekening and unilateral hypertrophy, from an atrophy of the uterine tissue at the internal os, or any laxity or flexibility from whatever cause.

As regards treatment, patients eome eomplaining of various symptoms, it may be of a simple feeling of pressure, with baekaehe, or of bleeding, and in some the symptoms are mainly hysterieal. When a woman suffering from a displacement of the uterus presents symptoms of derangement, hysteria, &e., we are generally led to conclude that the origin of her complaint lies in the uterus.

Now, it is neeessary to be eareful in this, because, in most eases the troubles of innervation are positively looked upon as reflex phenomena of a uterine malady, whereas, in many instances there is great reason to suspect that it is the abnormally exaggerated suseeptibility of the patient which is more likely to be the eause of a slight derangement of the uterus being felt so severely. The treatment, therefore, in these eases should be directed against sueh a state of body. In old standing cases there is frequently shrinking of the anterior wall of the vagina, and therefore, with replacement, and the introduction of a pessary, the patient complains of the disturbed state of the bladder. Sueh symptoms arising should not be lightly passed over. Great care is needed to seleet proper support to the replaced organ. The pessary does not replace the uterus, but only keeps it in position after the hand of the physician, with or without instrumental aid, has done so. If, instead of aeting thus, the instrument is used as a lever to replaee the organ, mueh injury may result. If any irritation should exist, it is better to leave it alone, or use at first a small ring pessary to give simple support, and afterwards a Hodge, Albert Smith, or Thomas pessary eould be applied.

Several patients have consulted me a few weeks after their confinements regarding a feeling of pressure, whieh was increasing, although their own physician had assured them that it would pass away. On examination, the uterus was invariably found in a somewhat retroflexed state, which could be easily replaced with the fingers, but soon after returned to its old position. This indicates the necessity of a proper support. Experience is required to select a suitable pessary for eaeh speeial ease. Pessaries act by stretching the vagina. The upper end, above and behind the cervix, fixes it there unless

the vaginal walls are very relaxed, whilst the intra-abdominal pressure acts upon the posterior surface of the replaced uterus, and tends to keep it anteverted, as it were. This is more noticeable in some cases than in others. The size of the uterus is another factor in tending to keep the replaced fundus forwards. Should pain result from the pressure of the pessary, it must be removed at once.

If the instrument is a proper fit, the patients immediately acknowledge their great relief. Very soon the headaches, &c., disappear, and the strength returns. Concerning the length of time which a pessary should be worn, I may say that good results in my practice have followed the wearing of the pessary for only two or three months, in some cases of short duration, but it is quite otherwise where you have to deal with a long standing case, and where the vaginal walls are relaxed. The longer a patient wears the pessary without complaint, and the uterus retains its good position, the more likelihood is there of a cure. After pregnancy there is a possibility of the organ regaining its normal state.

In cases where the uterus falls back on the removal of a pessary which has been in position, say for months, is there any good to be got from reintroducing it? Surely. Because it retains the uterus in position, and so saves the patient from many painful, and at the same time dangerous symptoms.

Schultze treats these cases where reposition is impossible on account of adhesions, by dilating the os, and after introducing the finger into the fundus, hooks it forwards, whilst he grasps the uterus upon its posterior surface with the other hand, and attempts to stretch the adhesions. This appears violent treatment, and no doubt in a few cases would be highly dangerous, yet the adhesions are torn when pregnancy supervenes in such cases without bad results. A good pessary likewise causes stretching of these bands. Only slight traction should be applied, and when one remembers how freely the finger can be moved about within the uterus in treating abortion, little evil should result if carried out by a skilled hand. If the patient should be suffering from any acute symptoms, as pain, tenderness, rise of temperature, &c., it is unsafe to introduce a pessary, as such treatment would only increase the symptoms and make the patient worse. It is better to treat these cases by baths, injections, and therapeutic agents, than by mechanical interference. Scarification, tampons of medicated glycerine, &c., with hot water injections of 110°, do good. Where the os is patulous, special care is needed, as a

strong stream, or the introduction of the tube within the os, would give rise to colic, and might even cause distension of the organ.

Erosion, stenosis, bleeding, &c., require special treatment.

As regards the treatment of retroflexion complicated with pregnancy, I have never failed to reduce it where the patient was under chloroform. Electricity has been used in cases of retroflexion with varied results. Postural treatment is beneficial.

Shortening of the round ligaments has been taken up in this country as a speedy cure for retroflexion. This operation was first noticed by Alquié, of Montpellier, in 1840, but does not appear to have found much favour. It was detailed by Aran, Schultze, and others; and cases are on record where the operator failed, owing to the extreme atrophy of the ligaments, or through being unable to find them. Several successful cases have been recorded by Drs. Alexander and Adams, with the details of which most of you are familiar. Recently some feeling has been manifested regarding the claim of priority, and therewith the naming of the operation. A recent continental writer, who has followed the controversy, suggests that it should be called the Alquié-Aran-Deneffe-Soupart-Bourggroeve-Revington-Freund-Schultze-Alexander-Adams operation.

In conclusion, special warning should be given as to evils of tight lacing, and the patients cautioned against lifting weights, prolonged exertion, and straining.

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One Hundred Cases of Ovariotomy.

By Skene Keith, M.B.

The point of greatest interest in my second series of fifty cases of ovariotomy is to be seen in the diminished number of tumours which had been tapped before operation. Only eleven of the number, or 22 per cent., had been treated in this way, as against 32 per cent. in the first fifty. This is most satisfactory, and I hope to be able to show, ere long, that the tapping of an ovarian tumour by any one other than the surgeon who is to have charge of the case is as rare in Scotland as it has been for some years in England.

The advance which has been made in abdominal surgery, since the operation of ovariotomy was established by Sir Spencer Wells in the south and by Dr Keith in the north, is shown very distinctly by comparing the death-rate of those who have begun their abdominal surgery in the last few years with the mortality in the first fifty cases of ovariotomy of several of the older operators. In Dr Keith's first fifty completed operations there were ten deaths; advancing a stage of rather more than ten years, we find that beginners still had a heavy death list,—Thornton, Bantock, and Tait having nine, fourteen, and nineteen deaths respectively in their first fifties. A second stage onwards of about seven years, and Mr Meredith and myself are able to show less than one-third the number of the deaths of the surgeons already mentioned. What is the reason of the greatly diminished number of deaths? One of the most important, and one of which little notice has been taken, is that the operations are less severe than they used to be. Twenty-five years ago, when it was almost a crime to remove an ovarian tumour, the unfortunates who had them were allowed to live as long as

possible ; and, when it was certain that their lives were worth little, they were then, and not till then, handed over to the surgeon, almost as to the executioner. In the *Edinburgh Medical Journal* of August 1864, Dr Keith mentions that he had refused to operate on three cases only up to that time, and that one of these died in forty-eight hours, another in a week, and the third three weeks after being first seen by him. A second and most important factor in the production of the diminished death-rate is the principle of perfect cleanliness of Lister. Even those who scoff most would never think of putting a dirty finger, or sponge, or instrument into the abdomen, yet this regular and systematic use of the nail-brush is the direct outcome of Lister's antiseptics.

Increased experience is not to be lost sight of. Now, no one ought to do abdominal surgery unless he has watched others at work, and one ought not to hear it gravely suggested, as I have, when there was some doubt as to whether the peritoneum had been opened or not, that the layers of the abdominal wall ought to be counted. This is hard to believe, but it is a fact. The intra-peritoneal treatment of the pedicle has probably something to do with our present success ; though I have little doubt that almost, if not quite, as good results could be got with the clamp, if proper care were taken to dry the stump, and to prevent septic matter reaching the wound or the peritoneal cavity. The real objection to this instrument is, that the wound cannot heal in its whole extent by first intention. Drainage saves the lives of some. It is strange how the use of the tube was struggled against long after it had been adopted in general surgery. All manner of objections were made. It was said to be the cause of hernia, and that there was danger of omentum entering the holes and becoming strangulated. Both these objections were directed not to the proper but to the improper use of the instrument. It is quite conceivable that a tube as thick as one's thumb may weaken the abdominal wall, or that holes made to suit such a tube might allow omentum to enter ; but such a one is far too large, and I was much surprised when first shown a Keith's tube of this size. We have also better instruments, and

we know better how to take care of our patients after operation. The routine practice of giving so much opium so many times a day is gradually giving place to the more enlightened plan of using the drug in suitable cases, and with some definite object, though some have gone to the opposite extreme, and say that they never order it under any circumstances. These are the chief reasons why fewer women die after ovariotomy than used to die; yet, although the mortality of specialists is reduced to a small percentage, the general mortality after ovariotomy in this country is probably nearer 30 than 20 per cent. Some time ago I heard of an obstetrician having five deaths in succession after this operation!

It is interesting to watch how even in the comparatively short history of ovariotomy, methods of treatment have been tried, found wanting, discarded, and then after a few years again brought forward; or how great stress has been laid on one particular part of the operation, how it is next thought to be of little importance, and how again it is written about and made much of. For example, about twenty years ago Dr Keith used often to wash out the peritoneal cavity with warm water; five years ago I saw this practice carried out in America, and now it has been taken up by English abdominal surgeons as one of the most recent advances. The length of the incision has been again pushed into prominence. Many years ago Sir Spencer Wells showed that the mortality was greater when a long, rather than a short, incision had been used. The natural explanation of this is that a longer incision is required when the tumour is badly adherent, and when it cannot be much diminished in size either by the trocar or by breaking down with the hand. The following sentence from the *Lancet*, nineteen years ago, shows this pretty conclusively. "In the case of single, or nearly single, unattached cysts nothing could be simpler than the operation, and in several the cicatrix is not more noticeable than the umbilicus."

The number of broad ligament or parovarian cysts is much under Mr Tait's average of 10 per cent., though in his last list of cases the number had gone up to eighteen in the hundred.

Here the proportion of these cysts is decidedly under 10 per cent., and the majority of these are cured by tapping abdominal section being required only in exceptional cases. Malignant cysts of the parovarium do not seem to flourish in this part of the world. It remains a mystery why surgeons will not even try to cure these cysts by simple means—a trocar and canula not larger than a No. 4 or 5 catheter is all that is required.

To make my list of abdominal sections complete, as I believe that this is the only way of giving a correct idea of the work which is being done, eighteen cases of the removal of the uterine appendages, one case of hysterectomy, four exploratory, or incomplete, operations, with one death, and one fatal case of the removal of a uterine fibroid must be added, bring up the total of cases where I have opened the abdomen to 131, with six deaths. At present, a smaller death-rate accompanies the operation of ovariotomy than that of the other abdominal sections. This is seen at once from the figures already given—3 per cent. for ovariotomy, 10 per cent. for all other cases—or even more markedly when we compare Mr Tait's last list of removal of ovarian and parovarian tumours with what one knows of his results in other abdominal operations. During one of the two years when this long list was being made—the only one for which I have seen the report of the Birmingham Women's Hospital—the abdomen was opened fifty-six times by this operator in that hospital. Out of these fifty-six operations, eight were fatal, or, in other words, one woman out of every seven died, on whom Mr Tait that year performed abdominal section in the hospital. These results have certainly not helped to destroy my fear of the peritoneum, nor, to use Mr Tait's own words, do they justify me in opening that sacred sac very much as one opens one's pocket.

The incomplete or exploratory operations consisted of two cases of ovarian tumours, where I expressed the opinion that it would probably be impossible to remove the growths; but as on each occasion I had travelled a long distance to see the patients, and as both were very anxious to have something tried, exploratory incision was advised. In the fatal case, the

growth was found to be a multilocular tumour, so adherent as to defy removal, and in addition there were cancerous masses in the omentum and mesentery. The second case occurred in an old lady, aged 75. The tumour weighed fully thirty pounds, and at least one-half of its anterior surface was covered by adherent intestine. An incision was made to see if the adherent bowel could be separated easily or not. Unfortunately—or perhaps fortunately—the intestinal adhesion was very vascular; and, taking into consideration the age of the patient, who had attained to five years beyond the time allotted to man, I determined to empty the sac and close the wound. The contents of the sac were too viscid to flow through the trocar; the opening was therefore enlarged, the contents emptied, the interior of the cyst washed out with warm water, and the opening closed round a large rubber drainage-tube. The sac suppurated, giving rise to almost no disturbance, rapidly closed, and in a few weeks the old lady was able to be downstairs, and is now quite well. The two other cases were not begun as exploratory operations. In one, I entirely failed to remove the uterine appendages, and all that was done was to separate the uterus from its close connexion to the tissues over the sacrum. Strangely enough, this has relieved the woman of her backache, though in other respects she has not improved. The last case was one of a large semi-solid ovarian tumour, surrounded by ascitic fluid. Following our usual custom, the ascitic fluid was drawn off and examined microscopically. No evidence of malignant disease was found in it, although when the abdomen was opened, cancerous masses were seen, not only on the surface of the tumour, but also on the peritoneum and on the liver. In such a case, no good could have resulted from the removal of the tumour, so the wound was closed. The poor woman lived for eight or nine months. I think it right to make a distinction between cases which are begun as exploratory and those which, from error in diagnosis or other cause, have to end as such. For diagnostic purposes no operation has been required, and there has been no mistake in diagnosis.

TABLE OF CASES.

No.	Date.	Sent by	Age	Adhesions, etc.	Weight.	Residence.	Result.
1	June 1881	Dr Strang, Newcastle	38	Several parietal, omental, intestinal; twisted pedicle; pregnant; drained	8 lb.	Hospital	Recovered.
2	July „	Dr M'Lauchlan, Carnoustie	55	Uterine	40 „	„	„
3	Aug. „	Dr Murray, Newcastle	46	Omental; tapped once	46 „	„	„
4	„ „	Dr Crichton, Arbroath	48	Parietal; tapped five times	16 „	„	„
5	„ „	Dr Hodgson, Aspatria	50	None	40½ „	„	„
6	Aug. 1882	Dr Marshall, Greenock	31	None; dermoid	6 „	„	„
7	„ „	Dr Macdonald, Inverness	50	Omental	38 „	„	„
8	Oct. „	Dr M'Bain, Newcastle	50	None	27½ „	„	„
9	Dec. „	Dr Blaikie	24	Parietal; tapped once	9 „	„	„
10	„ „	Dr Home, Jedburgh	27	None	11 „	Private	„
11	Jan. 1883	Dr Urquhart, Montrose	34	None; both ovaries; tapped once	6 „	Hospital	„
12	„ „	Dr Laurence, Montrose	30	Parietal; tapped twice	21 „	„	„
13	„ „	Dr Walker, Wooler	26	Vascular, parietal, and omental; tapped once	27 „	„	„
14	Feb. „	Dr Keith	45	None; tapped three times	20 „	Private	„
15	„ „	Dr Hogg, Falkland	52	Extensive parietal and omental	17⅕ „	Hospital	„
16	„ „	Dr Naismith, Cowdenbeath	22	Parietal	16⅕ „	„	„
17	March „	Dr Bruce, Kirkwall	24	Omental; pedicle twisted off; tapped once	8½ „	„	„
18	„ „	Dr Peard, Newcastle	40	Parietal, omental, and mesenteric; tapped once	27⅕ „	Private	Died; obstruction.
19	March 1884	Dr Dewar, Arbroath	46	None; papilloma	15 „	Hospital	Recovered.
20	April „	Dr Joseph, St Leonards	28	To colon; both ovaries	17½ „	„	„
21	„ „	Miss Fairish	23	Parietal	35 „	Private	„
22	„ „	Dr Dickson, Newton-Stewart	22	None; both ovaries	30 „	Hospital	„
23	May „	Dr Zeigler	32	None; both ovaries	15 „	Private	„
24	„ „	Dr Fraser, Grahamston	61	Parietal, omental, mesenteric, and intestinal; malignant tumour	9 „	Hospital	„
25	„ „	Dr Somerville, Galashiels	42	None	9 „	Private	„
26	June „	Dr Keith	58	Slight parietal, omental, and intestinal; sarcoma	30 „	Hospital	„
27	„ „	Dr Black, Greenock	26	To intestine, ureter, and uterus; broad ligament opened up	16 „	„	„
28	July „	Dr Welford, Sunderland	32	None; both ovaries	10 „	„	„
29	„ „	Dr Stewart, Kirkwall	68	None	32 „	Private	„
30	Aug. „	Dr Mackenzie, Inverness	22	None	18 „	Hospital	„
31	Sept. „	Dr Cowan, Wishaw	37	None; sarcoma	30 „	„	„
32	„ „	Dr Brighton, Hawick	34	None	14 „	„	„
33	Oct. „	Dr Crease, South Shields	24	To colon; both ovaries; tapped once	7½ „	„	„
34	Nov. „	Dr Philip	43	Extensive parietal	34 „	„	„
35	Dec. „	Dr Keith	19	None	20 „	„	„
36	„ „	Dr Zeigler	68	Parietal, omental, and intestinal; tapped once	14 „	Private	„

No.	Date.	Sent by	Age	Adhesions, etc.	Weight.	Residence.	Result.
37	Dec. 1884	Dr Deverell	50	None; burst cyst; tapped once	8½ lb.	Hospital	Recovered.
38	Feb. 1885	Dr Millar, Wakeworth	28	Omental; burst cyst; twisted pedicle; chronic peritonitis	14½ „	Private	„
39	„ „	Dr Keith	29	Parietal, omental, and intestinal, and to bladder; twisted pedicle; dermoid; drained	5½ „	Hospital	„
40	March „	Dr Crole, Leven	59	Uterine	22 „	„	„
41	„ „	Dr Black, Jedburgh	50	Uterine; both ovaries	40 „	„	„
42	April „	Dr Cameron, Innerleithen	29	Parietal	15½ „	„	„
43	„ „	Dr Adams, Glasgow	32	Parietal, omental, intestinal, and in pelvis; both ovaries; drained	20 „	Private	„
44	May „	Dr Kennedy, Kirkcaldy	41	Parietal and in pelvis; both ovaries	20½ „	„	„
45	„ „	Dr Keith	50	None; burst cyst; chronic peritonitis; tapped once	10 „	„	Died; shock.
46	„ „	Dr Keith	46	Very extensive enucleation; dermoid; drained	23 „	„	Recovered.
47	June „	Dr Wilson	21	Extensive parietal, omental, to bowel and appendage; tapped twice; drained	34 „	Hospital	„
48	July „	Dr Urquhart, Montrose	53	Parietal, omental, and to bladder; tapped twice; both ovaries	42 „	Private	„
49	Aug. „	Dr Sawers Scott	35	Posterior, intestinal; dermoid; pregnant	2 „	Hospital	„
50	Sept. „	Dr Kirkland, Airdrie	22	Vascular, parietal, and omental; twisted pedicle; tapped once; both ovaries	10 „	„	„
51	„ „	Dr Wilson	38	None	17½ „	„	„
52	Nov. „	Dr Mackenzie, Stornoway	28	None; papilloma; three months pregnant; tapped twice	42 „	„	„
53	„ „	Dr Turnbull, Kelso	34	Parietal and omental	21 „	„	„
54	Dec. „	Dr Keith	34	None	25 „	Private	„
55	„ „	Dr Gemmel, Airdrie	26	None; burst cyst; chronic peritonitis	12 „	Hospital	„
56	„ „	Dr Shearer, Paisley	42	None	19 „	„	„
57	„ „	Dr Fergus, Glasgow	62	None	37 „	„	„
58	„ „	Dr Thomson, Harbottle	56	None	17 „	„	„
59	„ „	Dr T. A. G. Balfour	38	Very vascular and extensive parietal, and to colon	57½ „	„	„
60	Jan. 1886	Dr Allan, Dumbarton	28	Universal; twisted pedicle; both ovarian; tapped once	5½ „	„	„
61	„ „	Dr Gordon, Juniper Green	19	None; burst semi-solid, with chronic peritonitis; tapped once	22 „	„	„
62	„ „	Dr Keith	23	Pelvic; burst cyst; twisted pedicle	18 „	Private	„
63	„ „	Dr Charlesworth, Kelso	26	„ „ „	14 „	Hospital	„
64	Feb. „	Dr Cuming, Belfast	36	Omental; papilloma; both ovaries	28 „	„	„
65	„ „	Dr Charlesworth, Kelso	49	Omental; burst semi-solid, with chronic peritonitis	26 „	„	„
66	„ „	Dr Bruce Low, Helmsley	30	None; tapped once	33 „	„	„
67	„ „	„ „	30	None; broad ligament cyst; tapped once	32 „	„	„
68	March „	Dr Somerville, Galashiels	70	Omental; burst cyst	21 „	„	„
69	„ „	Dr Orr, Tayport	46	None	12 „	„	„
70	April „	Dr Watson, Alnwick	46	Parietal; phlegmasia dolens; parotid bubo	22 „	Private	„
71	May „	Dr Smith Shand, Aberdeen	40	Parietal	13½ „	Hospital	„
72	„ „	Dr Blandford, Stockton-on-Tees	41	Omental and pelvic; extensive enucleation; both ovaries; drained; tapped once	17½ „	„	„
73	„ „	Dr Finlayson, Glasgow	40	None; both ovaries	20 „	Private	„
74	„ „	Dr Cameron, Innerleithen	29	„ „	17 „	Hospital	„
75	June „	Dr Keith, from Belfast	43	Omental; extensive to colon and enucleation in pelvis	10 „	Private	„

TABLE OF CASES—*Continued.*

No.	Date.	Sent by	Age	Adhesions, etc.	Weight.	Residence.	Result.
76	June 1886	Dr Macfarlane, Kilmarnock	27	Parietal	17 lb.	Hospital	Recovered.
77	,, ,,	Dr Bannerman	21	None; ovarian and parovarian cysts removed	5 ,,	,,	,,
78	,, ,,	Dr Peddie	28	Parietal and omental; both ovaries	18 ,,	,,	,,
79	July ,,	Dr Haggart, Aberfeldy	26	Pelvic; omental and to bladder; both ovaries	17 ,,	,,	,,
80	,, ,,	Dr Linton	51	Extensive enucleation; adhesion to intestine and right ureter; drained	30 ,,	,,	,,
81	,, ,,	Dr Cruickshank, Nairn	55	To bladder	16 ,,	,,	,,
82	Aug. ,,	Dr Keith, from Glasgow	45	Parietal	13 ,,	,,	,,
83	,, ,,	Dr Keith, from Belfast	43	Slight pelvic; both ovaries	22½ ,,	Private	,,
84	,, ,,	Dr Patterson, Bridge of Allan	20	To colon	23 ,,	Hospital	,,
85	,, ,,	Dr Spence, Burntisland	50	Parietal; tapped once	9 ,,	,,	,,
86	,, ,,	Dr George Dickson	59	None	15 ,,	Private	,,
87	Sept. ,,	Dr Frew, Galston	34	Parietal, omental, intestinal, and in pelvis; twisted pedicle; two tumours; drained	10 ,,	Hospital	,,
88	,, ,,	Dr Scott, Musselburgh	30	To bladder and colon	14½ ,,	,,	,,
89	,, ,,	Dr H. A. Peddie	26	None; dermoid; both ovaries; fibroid uterus in pelvis	2½ ,,	,,	,,
90	,, ,,	Dr Morris, Kennoway	22	Pelvic; both ovaries	18½ ,,	,,	,,
91	,, ,,	Dr Keith	52	None; fibroid in pelvis	17 ,,	Private	,,
92	,, ,,	Dr Dickson, Dunkeld	42	Dermoid	6 ,,	Hospital	,,
93	,, ,,	Dr Kynock, Greenlaw	65	None	12 ,,	Private	,,
94	Oct. ,,	Dr Campbell, Dundee	25	Parietal; burst colloid; chronic peritonitis; tapped once	19⅓ ,,	Hospital	Died; septicæmia.
95	,, ,,	Dr Bonthron, West Linton	61	Extensive parietal, to colon and mesentery	18½ ,,	,,	Recovered.
96	,, ,,	Dr Cruickshank, Nairn	25	Omental	30 ,,	,,	,,
97	,, ,,	Dr Kirkwood, Largs	32	None	16 ,,	Private	,,
98	Nov. ,,	Dr Hay, Leslie	23	Both ovaries	13½ ,,	Hospital	,,
99	,, ,,	Dr Fraser, Berwick	44	Very extensive enucleation	9 ,,	,,	,,
100	,, ,,	Dr Howden, Haddington	46	Semi-solid, entirely extra-peritoneal; both ovaries	17 ,,	,,	,,

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